Understanding Earned Value Management

Audience: Project team members who are responsible for planning, controlling and analyzing cost, schedule and technical performance of an activity, project, or contract.

Goal: This 16 hour course will provide an understanding of how to get up and running with Earned Value Management (EVM) by establishing the Performance Measurement Baseline (PMB), assessing earned value, analyzing cost and schedule variances, and determining an Estimate At Completion (EAC) of the project's or contract's final cost and schedule.

Learning Objectives: Participants will be able to:

- Understand basic EVM concepts and terminology
- Understand how to develop an EVM baseline
- Understand how to use EVM data to forecast the project's or contract's final cost at completion

Learning Methods: Lectures, case studies, discussions, demonstrations, and exercises

Key Topics:

- EVM terminology
- EVM guidance and policy
- Performance Measurement Baseline
- Earned Value techniques/methods
- Earned Value formulas, variances, and performance indices
- Estimates At Completion
- Corrective Action Plans

Suggested Prerequisites:

- Understanding Schedule Management

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Module Name	Topics	Learning Objectives - Participants will be able to:
1.0 Introduction	• Instructor/participant introductions • Agenda • Course Objectives • Icebreaker: Things We've Heard About EVM	• Articulate course objectives and outcomes
2.0 Orientation to EVM	• EVM Overview • Policy Introduction: OMB, 7120.5D, FAR, EIA-748	• Understand the basic reasons for EVM • Understand the governing requirements for EVM on NASA projects
3.0 EVM: The First Steps	• Create a baseline plan - Define the project scope - Assign responsibility for performing the work - Schedule the work - Allocate resources - Establish the Earned Value Project Baseline • Assess and award earned value • Accumulate actual cost • Management Reserve	• Understand the principles involved in establishing a Performance Measurement Baseline - Role of WBS in defining project scope - Value of developing a Responsibility Assignment Matrix (RAM) - Importance of the Integrated Master Schedule - Significance of tying the budget to the schedule with the WBS • Obtain experience developing Work Packages using generally accepted earned value methods for discrete effort, apportioned effort, and level of effort • Demonstrate how to measure earned value at the Work Package level • Understand the importance of accurate actual cost data to successful EVM • Understand the role of Management Reserve

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4.0 Analyzing EVM Data	• Basic EVM concepts and formulas • Types of variances • EVM reports, graphs, and Contract Performance Report (CPR) formats • Comparative analysis • Performance indices and factors • Computing Estimates At Completion (EACs) • Corrective action planning	• Understand the basis for the EVM data provided or reported in order to validate its reasonableness and accuracy • Recognize the significance of variances from the baseline • Understand how to interpret EVM reports and graphs • Understand how the various CPR report formats interrelate • Understand how and why to compare historical with forecast performance indices and data • Understand how to use performance indices and factors to calculate estimates of the final cost • Understand the types of information that should be included in corrective action plans
5.0 EVM Analysis Case Study	• Reinforce EVM concepts and module learning outcomes • Provide a forum for discussion of actual situations encountered by the class participants	• Understand how to apply basic EVM concepts to project work – even projects without an EVM requirement